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CASE REPORT

Progressive Ascending Telangiectasia Treated With the 585nm Flashlamp-Pumped Pulsed Dye Laser

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Background and Objective: **Progressive ascending telangiectasia (PAT) is a distinct entity with telangiectatic superficial vessels on lower extremities as its main clinical feature. A relationship with occult infections and response to antibiotic and antifungal drugs have been described, although not all cases can be successfully managed with these therapies. Our objective was to treat a woman with PAT that had failed to respond to systemic antibiotic and antifungal drugs.**
Study Design/Patients and Methods: **A 44-year-old woman with PAT was treated with the flashlamp-pumped pulsed dye laser at 585 nm, with fluences varying from 7 to 7.25 J/cm^2.**
Results: **A successful outcome was obtained with this treatment approach, with no relevant adverse effects except for mild pigmentary changes.**
Conclusions: **Although ectatic vessels on lower extremities are often resistant to dye laser therapy, superficial thin capillaries like those featuring PAT can be eliminated with the pulsed dye laser at 585 nm. Transient pigmentary changes occur on treated areas but they are expected to disappear in 6 to 12 months after treatment. Laser treatment should be considered in PAT despite the extension and location of the lesions. Lasers Surg. Med. 21:413–416, 1997.** **© 1997 Wiley-Liss, Inc.**

Key words: PAT; flashlamp-pumped pulsed dye laser; telangiectatic lesions

INTRODUCTION

Progressive ascending telangiectasia (PAT) in a rare disease characterized by the development of telangiectatic vessels, initially limited to the feet and ankles, and later spreading up to the legs and onto the trunk and arms. This typical evolution makes it possible to distinguish it from the general group of essential telangiectasia. Systemic treatment with tetracyclines, ketoconazole, and acyclovir has been effective in some cases [1–3], and a focal clotting process within the capillaries of the skin, induced by candidal or bacterial endotoxin antigens has been advocated as a pathogenic mechanism [1]. Thus far, only isolated cases treated with each of the above-mentioned drugs have been published, so these cannot be considered as generally accepted treatment measures.

We report a case of PAT successfully treated with the flashlamp-pumped pulsed dye laser (FPDL) after failure to control the process with systemic tetracyclines and antifungal drugs.

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Fig. 1. Extensive telangiectases on the surface of both legs and ankles.

CASE REPORT

A 44-year-old woman observed the appearance of telangiectatic lesions at the age of 20. They were scattered on both ankles, symmetrically distributed, with no concomitant varicosities (Fig. 1). She was not taking systemic medication. There was no family history of skin disease or vascular abnormalities. Lesions gradually ascended onto the legs and thighs, spreading over the whole surface of inferior extremities. She had no associated symptoms. After the delivery of her first child, she had a remission period, lasting for several years, with a new pregnancy and delivery during this time. Telangiectatic lesions reappeared with no triggering factor, following an ascending progression, similar to the initial one. The process was not modified with her third pregnancy. A biopsy sample showed dilated capillary vessels in the papillary dermis. No abnormal mastocite aggregates could be seen with Giemsa staining.

Laboratory studies including protein and immunoglobulin electrophoresis, cryoglobulines, antinuclear antibodies, serum complement, hormonal studies (cortisol, estradiol, testosterone, thyroxine, growth hormone), stool, urinary, and pharyngeal cultures, and gynecological exploration with Papanicolaou test disclosed normal or negative results.

A diagnosis of progressive ascending telangiectasia was made. A treatment with oral tetracyclines (500 mg twice a day for one month) was tried with no response. Systemic ketoconazole (200 mg daily) and itraconazole (100 mg daily), used during one month periods, were also unsuccessful. Despite the extension and location of the lesions, it was decided to try a laser treatment.

A flashlamp-pumped dye laser at 585 nm with 5 mm beam diameter and 450 μs pulse duration (Gamdela Corp., Wayland, MA) was used to treat the telangiectatic lesions on both feet and legs. It used a fluence ranging from 7 to 7.25 J/cm^2. More than 2,000 pulses were needed to cover the entire affected area, and it was done in several sessions. A purpuric response was observed immediately after each treatment, lasting about 10 days. An excellent response was achieved in the first therapeutic session, with a clearance of 90–100% in all treated areas (Fig. 2).

Several sessions were needed to treat the whole legs' surface. Subjective tolerance was good without any anesthetic procedure. A mild transient hyperpigmentation developed on treated areas (Fig. 3). Ascending progression of lesions stopped at the beginning of laser treatment, and telangiectasias have not relapsed after 18 months.

COMMENT

The term progressive ascending telangiectasia (PAT) has been used by Shelley to designate a distinct clinical entity that was previously included in the group of the generalized essential telangiectasia [1]. It is a rare disease primarily affecting women, that presents with cutaneous telangiectasias on dorsum of the feet and ankles, with a tendency to insidious ascending progression up the legs onto the trunk and arms. It can even affect most of the cutaneous surface, with no impairment of general state, although some cases have been associated with systemic disease [2,4]. The mean feature of this process is its tendency to slow ascending spreading of telangiectatic vessels.

Ultrastructural studies have shown the venous nature of the dilated capillary vessels. These ectatic vessels located in superficial dermis are

Fig. 2. Complete clearance of telangiectases on treated area after the first laser session.

Fig. 3. Hyperpigmentation is observed on some treated areas.

the essential histologic feature [1]. No signs of vascular neoformation are seen. Using scanning electron microscopy, Shelley found focal fibrine clots in the altered capillaries that, in his opinion, could be a vascular reaction to fungal or bacterial endotoxins, favored by stasis factors.

Good responses have been obtained in the treatment of PAT with systemical antifungal (ketoconazole) [1], antibacterial (tetracyclines) [3], and antiviral (acyclovir) [2] drugs. Although these products could have a direct effect on microvasculature, they could also act on the hypothetic pathogenic mechanism described before. In our patient, no response was obtained with tetracyclines nor with ketoconazol and itraconazol. We found no related infections or hormonal abnormalities.

The flashlamp-pumped pulsed dye laser at 585 nm is an effective therapy for port-wine stains and other vascular ectasias of the skin. Its effectiveness and safeness in these processes are based on the theory of selective photothermolysis [5]. The good results of this laser in the treatment of cutaneous telangiectasias prompted us to treat this patient after systemic drug therapy failed to control the process, although location on inferior extremities often predict a poor result with laser therapy [6]. Superficial and tiny dermal vessels without associated varicose veins would probably respond to the treatment, although a transient hyperpigmentation is a common complication. Microscopic studies in PAT have shown dilated capillary vessels in superficial dermis, a favorable histologic picture for laser treatment. In our patient, an excellent cosmetic result was achieved with a good subjective tolerance besides the extension of the lesions. The transient mild hyperpigmentation was considered acceptable by the patient, and it completely faded after a period of 6 months. Pulsed dye laser therapy should be considered in the treatment of this entity, especially after systemical antimicrobial drugs fail to control the process.

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